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Creativity and Computers

A View That Electronic Systems Will Liberate Artists From Routine

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Critic at Large

Is there a future for the artist in a computerized world? This question will be very much on the minds of the participants in the P.E.N. Congress's round table today on "The Writer in the Electronic Age," with Marshall MacLuhan as chairman. Most writers, composers and painters know that the new machines are proliferating, becoming miraculously sophisticated and being entrusted with a vast variety of complicated, not to say awesome, tasks. But many are suspicious of the uses to which the new electronic marvels have been put. They fear that an almost universally mechanized, automatic society means death to the things they value.

But there is no fear in Eugene Leonard, a man of the new electronic age who combines a philosophic bent with a thorough familiarity with computers and data systems. It is his view that creativity, that special gift given only to man, will be needed more than ever as computers become more prevalent. It is his conviction that the artist, writer and philosopher will be the most highly prized citizens of a world profoundly altered by the computer revolution.

Mr. Leonard is in his forties. He helped to found and guide the Digitronics Corporation, which has made original contributions in data systems. But the day-to-day obligations of management were not to his taste. He preferred to experiment and think—and now does both in his Sands Point, L.I., home, where he has a small basement laboratory.

"The computer and data systems are only machines," he says. "They are capable at present only of routine decisions. Their functions are the creation of the human mind, not the computer mind. The computer has no mind."

Viewed as Opportunity

To Mr. Leonard the computer is not a threat but an opportunity. It offers the chance to eliminate the drudgery that for millenniums has consumed the better part of man's time and energy. Since the computer is not subject to emotional ups and downs, it has no fear of routine. If it could experience human emotions, it might, one would guess, glory in its blinding speed.

But it might also be depressed. For no computer—or, to speak more broadly, no data system, which includes means of collecting, storing, computing, comparing and displaying data—can initiate its own program. It has no means of being creative. But it can, in Mr. Leonard's judgment, release hitherto unused and undreamed of potentialities for creativity. He expresses his vision of a brace, new world of tomorrow in this way:

"If we accept the basic premise, as I do, that all human beings who are in any way normal have generally untapped creative potentialities, we can view the coming development of the new technology as the greatest achievement in man's history. I think that if we in the United States begin to plan, exploit, expand and capitalize on our potential for human creativity in all directions, not merely technical but artistic, literary, musical, philosophical, sociological and scientific, we will become a nation evermore in command of our environment."

A computer, it might be observed, can be programmed today to write music in the style of Mozart, but the results are bound to be banal. There is no way to instruct the machine to be inspired—to communicate a personal and unique sense of anguish or ecstasy. Conceivably a computer can be employed to save a composer some routine, time-consuming steps in preparing a manuscript. It might even enable him to provide specific instructions to performers that are superior to the centuries-old symbols he has used in his scores.

One does not speak in this context of the composers who have been using electronic devices as their very medium of expression. But even these composers have found that the manipulation of circuits will not insure art, which still requires an individual creative gift.

A Great Mystery

The creative act, which occurs only in the human brain, remains one of the great mysteries. Who knows what amalgam of genes and environmental influences is needed to produce an authentic artist? Who can predict how unrelated impressions, emotions and thoughts fuse into a creative idea? Who can say for certain what combination of intuition, drive, training, patience and sensibility can bring that idea to fruition on paper, canvas or tone?

It is Mr. Leonard's guess that a man listening to a Mozart string quartet for relaxation and pleasure may very well come away with a bridge to a valuable conception in an entirely different field, like a marketing idea or a scientific discovery. But whatever the computer and data systems will be able to do in the future — and Mr. Leonard has unlimited faith in their undiscovered possibilities—they are not likely to be capable of coping with nice questions of art or with such other refinements of civilization as virtue and justice.

These are — and will continue to be — the exclusive province of man. The province of the computer and data systems, Mr. Leonard argues, is the liberation of man from a multiplicity of routine tasks.

For creativity? Yes, for all artists, including the unsung Homers who have the capacity to create, but would otherwise lack the means and freedom to do so. For the world will always need artists and philsosophers to articulate its values and dream its unimaginable dreams.

When the question with which this article began was first put to Mr. Leonard, his instant response was, "Is there a future for a computerized world without artists?"